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Comments:

From the SCS Chief

Sharing Our Conservation Goals

We can't stress enough how important cooperation with other USDA agencies is in accomplishing our mission of soil and water conservation.

For example, USDA's Farmers Home Administration (FmHA) and the Soil Conservation Service share many of the same goals in developing, using, and conserving natural resources.

Less than 6 months ago, I signed a memorandum of understanding with FmHA's administrator, Charles Shuman. It has three major changes from a 1979 agreement.

FmHA now requires applicants for certain kinds of farm loans to have an SCS-approved conservation plan for the affected land area. This reflects an initiative in USDA's National Conservation Program designed to achieve better planning, coordination, and administration of soil conservation programs within SCS and USDA.

As FmHA field employees prepare environmental assessments and environmental impact statements for projects proposed by loan applicants, they will be calling on SCS for more technical assistance in using our soil survey and other resource data. They also will be asking for any environmental evaluations that SCS conservationists might have done through planning with prospective FmHA borrowers.

Finally, SCS and FmHA are cooperating on implementing the Farmland Protection Policy Act. This includes evaluating alternative sites for their agricultural importance as well as assessing their suitability for retention in agricultural use.

More cooperation requires careful planning. SCS State conservationists and FmHA State directors will meet annually to coordinate priorities and workloads. At the local level, FmHA will discuss its workload with SCS and the conservation district and request that districts include priorities for assistance in their annual plan of work.

SCS and FmHA are cooperating in yet another way: We plan to purchase microcomputers for our field offices under a joint procurement contract. We will get better volume discounts and save Federal dollars.

Cooperation between SCS and FmHA ensures that local citizens will benefit fully from USDA's soil and water conservation and rural development efforts.



Cover: Conservation practices on a Cascade County, Mont., farm. See article on page 11.
(Photo by Tim McCabe, visual information specialist, Public Information, SCS, Washington, D.C.)

John R. Block
Secretary of Agriculture

Peter C. Myers, Chief
Soil Conservation Service

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Rural Development

USDA Publishes Its 1984 Rural Development Policy Update

The U.S. Department of Agriculture's 1984 rural development strategy update states that natural resource management is an integral part of the management of rural facilities.

The report, in support of the National Conservation Program, says, "By 1987, USDA will be directing 67 percent of its soil and water conservation funds to the national priorities of erosion control, flood protection, and water conservation."

Bill Parker, director of rural development for the Soil Conservation Service, says, "The proper maintenance of existing community facilities may be the best rural development strategy a town could have. Protecting agricultural productivity is part of rural development and this might be accomplished through community efforts to protect the agricultural lands."

The new policy report says USDA will use the Land Evaluation and Site Assessment (LESA) technique to evaluate proposed conversions of farmland where Federal activity is involved. SCS developed LESA and has major responsibilities for its use under the Farmland Protection Policy Act provisions of the Agriculture and Food Act of 1981.

The report mentions USDA's commitment to voluntarism as another way to help rural areas conserve their resources. Parker says the USDA Resource Conservation & Development (RC&D) program—which relies on RC&D councils to enlist volunteers—is "the cornerstone of rural development." The report points out that rural conservationists enlist volunteers to assist in multicounty conservation planning, improvement of wildlife habitat, natural resource management, and building recreation facilities.

The report, "Rural Communities and the American Farm: A Partnership for Progress," is available from the Soil Conservation Service, Rural Development Division, P.O. Box 2890, Washington, D.C. 20013-2890.

Mississippi's First Rural Development Symposium Charts Course for State

This year, 400 people attended Mississippi's first rural development symposium.

The symposium, held in Jackson, Miss., is one of several State rural development conferences that followed a series of regional rural development meetings throughout the Nation last year. In Mississippi, the Governor's Office of Voluntary Citizen Participation sponsored the symposium, in cooperation with the Governor's Office of Community Development and the Southern Rural Development Center. The center, at Mississippi State University in Starkville, is one of four regional rural development centers operated by the Cooperative Extension Service.

There were 27 exhibits at the symposium, including one by the Hinds County Soil and Water Conservation District, which arranged publicity.

The symposium participants, including State legislators and people from the private and public sectors, recommended five major directions for a Mississippi rural development policy. The recommendations stress citizen participation and encourage education and job training, local decisionmaking, development of local businesses, and better use of resources. A rural development steering committee, formed to plan the symposium, is studying ways to present the recommendations to decisionmakers and urge the formation of a State rural development policy.

As a result of these recommendations, the steering committee advised the Governor's Office of Planning and Policy to integrate rural development into the State's overall policies. The committee also encouraged the formation of local citizen advisory councils throughout Mississippi.

The Governor's Office of Voluntary Citizen Participation is planning to follow the State symposium with a series of local rural development symposia.

Kentucky Rural Development Committee Draws Broad-Based Support

A small rural county in Kentucky is healthier thanks to its rural development committee. The committee, a diverse group of citizens and government representatives, worked with other organizations to bring Spencer County a health clinic, which opened this year.

After the Spencer County Rural Development Committee was organized in 1977, a government study showed a need for more medical help in the county. The county has one full-time doctor in Taylorsville, the county seat, and the nearest hospital is 21 miles away. The area also has a high infant mortality rate.

The Taylorsville clinic will soon add a full-time doctor to its staff, which now includes a nurse, two medical assistants, and a van driver who is an emergency medical technician. The van is equipped for handicapped patients and is used to bring patients to the clinic or hospital.

The Spencer County Rural Development Committee serves other needs, too. Taylorsville is struggling to survive in the shadow of Louisville, about 30 miles to the northwest. Businesses are leaving the downtown area and the area has a high unemployment rate. The opening of the 3,000-acre Taylorsville Lake last year and a new highway that bypasses the town are urbanizing the county and shifting development to the lake and highway area.

To take advantage of the tourist trade, the committee is looking for funds to build an agricultural trade center on an 88-acre site near the lake. The U.S. Army Corps of Engineers, which built the lake, leased the site to Spencer County for development. The committee is also sponsoring a study to find ways to revitalize the downtown area.

Last year, the committee put a Christmas tree in Taylorsville's town square with presents of clothing, food, and toys for the needy. The committee is now helping to build a county park and playground. Technical assistance from the

Soil Conservation Service is providing guidance on site suitability, needs for erosion control, and vegetation for an attractive environment.

Joe Graham, an SCS soil conservation technician in Taylorsville, served as the committee's first chairman and is still a member of the group. The committee has 40 members on its mailing list, including representatives of several U.S. Department of Agriculture agencies.

But the committee goes way beyond USDA representatives. It includes conservation district supervisors, ministers, school principals, and the Taylorsville Chamber of Commerce. These people attract support from many different parts of the community. For example, the Chamber of Commerce representatives help when the committee has to ask employees at the town's bank to give up a day off to serve free lunches to a tour group.

Most of all, when the committee wants to help build something such as a health clinic or trade center, it's useful to have Spencer County Judge C. L. Glasscock, Jr.

Glasscock is the chief grantsman and mover on the committee. He is the man who finds State and Federal dollars to fuel projects. Of course, he is also an influential community leader who extends the committee's reach. His wife, Roberta, is a member both of the committee and of the Spencer County Board of Education.

Randall Giessler, SCS State conservationist for Kentucky, says the Spencer County Rural Development Committee is one of many in the State. He says, "The key to success for each of them is broad-based local membership. It takes people at the local level to define and resolve local problems. To be productive, rural development committees must include many different types of community representatives, and not be limited to USDA agencies and a few others."

Doug Sellars,
rural development specialist, Rural Development
Division, SCS, Washington, D.C.

USDA's Office of Rural Development Policy Launches Newsletter

The U.S. Department of Agriculture's Office of Rural Development Policy has begun a newsletter which it says "opens a dialogue not just with the farmers [the Department has] traditionally served, but with their 56 million nonfarm neighbors—the growing rural America that's dramatically changing the structure of this Nation."

Last year, USDA's original rural development strategy report, "Better Country: A Strategy for Rural Development in the 1980's," noted the dramatic migration back to rural areas documented by the 1980 census. Now the authors of the 1984 report say, "The most striking fact to emerge from a year of intensive study of rural America is this: over a million American farm families depend on off-farm sources for a large portion of their annual income."

In recognition of the number of people living in rural areas and their needs, the quarterly newsletter covers topics such as ways to increase job opportunities in rural areas and the growing use of computers by small local governments.

In an interview in the newsletter's Spring 1984 issue, Frank W. Naylor, Jr., USDA's Undersecretary for Small Community and Rural Development, says, "The lack of income-producing business is rural America's most serious problem." He also says the "meaning of the word 'rural' has changed drastically. Rural used to be synonymous with farming: today, less than one-tenth of the people who live in rural areas—farms, small towns—are actually farming."

For single copies of a recent issue, write to Editor, "Rural America Review," Room 5048-S, U.S. Department of Agriculture, Washington, D.C. 20250.

Donald L. Combs,
assistant editor, *Soil and Water Conservation
News*, SCS, Washington, D.C.

Small Watershed Projects

This is the second part of a three-part series on small watershed projects. Part I appeared in the August 1984 issue of *Soil and Water Conservation News*.

Conservation Practices Protect Watersheds

The Soil Conservation Service is designing land treatment watershed protection projects through Public Law 83-566 to accelerate the installation of soil and water conservation practices where problems are severe and ongoing programs are not meeting the needs.

Since 1979, SCS has authorized 68 land treatment watershed protection projects for planning assistance. Of these, 35 have approved watershed project plans and have been authorized for installation. The projects cover 1.6 million acres in 16 States and will cost an estimated \$36 million in Federal cost share funds. To date, nearly \$18 million has been obligated and installation of recommended conservation practices is well under way.

Land treatment practices are installed on individual farms under 3- to 10-year contracts between landowners and SCS or local soil conservation districts.

Land treatment watershed protection projects are aimed at reducing excessive soil erosion to protect long-term productivity; improving water quality; conserving water in water-short areas; and reducing severe offsite sediment damages. These objectives are priorities in the National Conservation Program.

George L. Stem,
West liaison for land treatment programs, basin and area planning division, SCS, Washington, D.C.

Ronald C. Page,
watershed policy coordinator, basin and area planning division, SCS, Washington, D.C.

Watershed Project Features Land Treatment

The Nation's first "land treatment only" watershed project authorized under Public Law 83-566 is now in its fifth year of operation in Vermont's LaPlatte River watershed. The watershed is also the subject of a 12-year water quality monitoring study.

The LaPlatte River drains into Shelburne Bay on Lake Champlain which lies along the New York and Vermont border.

The Lake Champlain river basin study that the Soil Conservation Service completed in 1979 showed that sediment and other agricultural pollutants were draining into Shelburne Bay. About 42 percent of the LaPlatte River watershed is in forage crops used to support an intensive dairy industry.

The study indicated that nonpoint source pollution from farmland in the 36,000-acre LaPlatte River watershed was contributing 24 percent of the phosphorus load to the bay and delivering an annual sediment load of more than 8,000 tons.

Algae and aquatic weeds were thriving on the pollutants and reducing the dissolved oxygen in bay water, making conditions unfavorable for fish and other animal life. Sediment was clogging waterways.

The Vermont Department of Agriculture, Vermont Agency of Environmental Conservation, and the Winooski Natural Resources Conservation District (NRCD) are sponsoring the small watershed project to reduce soil erosion and sedimentation to help solve the area's water quality problems.

Since the project began in 1979, landowners have been adopting conservation systems to control erosion and sediment and keep animal wastes from entering surface waters. By June of this year, 27 of 40 qualified landowners had signed voluntary long-term contracts for 3 to 10 years to install these conservation measures. Program participants represent some of the most critical problem areas.

SCS is providing technical and finan-

cial assistance to these farmers to help them use conservation tillage systems, contour farming and stripcropping, cover crops, and diversions and grassed waterways to control soil erosion and reduce sedimentation.

To keep animal wastes out of waterways farmers are installing animal waste storage facilities to store manure over winter; filter strips to handle milkhouse wastewater; and diversions and fencing to control barnyard runoff. Storing the manure over winter to use during the growing season saves farmers money through less need for commercial fertilizers. Where needed, farmers are also stabilizing streambanks by fencing cattle out or putting riprap along streambanks.

To evaluate how the conservation practices installed affect the amounts of sediment, nutrients, and animal wastes entering the surface waters of the watershed, the Vermont Water Resources Research Center of the University of Vermont is collecting data from five automated water quality monitoring stations along the 16-mile-long LaPlatte River and its tributaries.

The water quality monitoring program will also evaluate how the conservation practices affect the transport of sediment and nutrients to Shelburne Bay.

The monitoring program is a cooperative effort of SCS, the Winooski NRCD, the Vermont Agency of Environmental Conservation's Department of Water Resources, and the University of Vermont's water resources research center. Funding is provided by SCS and the University of Vermont.

The five monitoring stations measure and record streamflow and collect water samples. The samples are analyzed for water quality elements including suspended solids, phosphorus, nitrogen, fecal coliform, fecal streptococci, pH, turbidity, temperature, dissolved oxygen, and conductivity.

A network of recording gages measures rain and snowfall. Bubbler-type recorders measure streamflow. Additional meteorological information is collected from the National Weather Service station in Burlington, Vt.

Samples are collected from each of the monitored subwatersheds every 8 hours by automatic samplers and combined in the laboratory to yield four consecutive 24-hour composite samples and one 72-hour composite each week. The effluent from a wastewater treatment facility in the watershed is sampled differently; one 7-day composite sample and two random samples are taken each month.

During high-flow events, such as spring snowmelt and summer storms, more samples are collected at all stations at 2- to 8-hour intervals to give a more detailed picture of watershed conditions during times of high runoff.

"It will be difficult to determine exactly how much seasonal variabilities such as increased streamflows and storm events have affected the sediment and pollutant load carried by streams until we have collected data over a longer time period," said Donald W. Meals, Jr., project coordinator with the Vermont Water Resources Research Center.

"Some of the data are indicating a decrease in concentrations of sediment and pollutants in some of the tested watersheds," said Meals. "The fifth year data for September 1981 through August 1982 indicate that the quantities of sediment, phosphorus, and nitrogen coming out of three of the tested subwatersheds were lower than the previous year.

"Two subwatersheds, however, showed higher sediment. We can't say for sure what caused this increase, but it could be because of an increase in rainfall in those areas during the testing period.

"Station number 3 monitors water quality in a small drainage area of about 380 acres," said Meals. "This subwatershed is characterized by overall good conservation practices and nonintensive agricultural and nonagricultural land use. Little additional conservation work is needed or planned.

"This subwatershed serves as our control for the research project. Data from it will reflect only changes in weather and will be very useful in evaluating changes in the other watersheds."

During the 12-year water quality moni-

toring program, the water resources research center will be involved in many special short-term projects.

One study, completed in the fourth year of the program, was to measure the amount of phosphorus the area's wastewater treatment plant was discharging. This information can be used to help determine how much phosphorus is coming from agricultural sources in the watershed and how much is coming from the treatment plant.

Another study assesses how different manure management practices on two similar cropland fields affect water quality. On one field, the traditional practice of spreading manure year round was followed, and on the other field, manure was stored over the winter months and spread only after the soil had thawed. Sediment and nutrients in the field runoff were measured to assess the differences in the two treatments.

"This study is an example of the direction we want to take with this monitoring effort," said Meals. "We will be making similar tests for different conservation practices throughout the watershed."

Ann Dudas,
public affairs specialist, SCS, Winooski, Vt.

Nancy M. Garlitz,
associate editor, *Soil and Water Conservation News*, SCS, Washington, D.C.

Erosion Control Project in Florida Panhandle

The East Pittman Creek watershed in Holmes County, Fla., was suffering an average annual soil loss of 10 tons per acre from 5,300 acres of cropland and critically eroding field and roadside gullies.

To reduce the excessive soil losses, the Holmes County Commissioners and the Holmes Creek Soil and Water Conservation District applied for technical and financial assistance through the Public Law 83-566 small watershed program of the Soil Conservation Service in September 1983.

Funded and approved for construction soon afterwards, the East Pittman Creek

small watershed project calls for SCS to help farmers apply conservation tillage, contour farming, terracing, diversions, critical area planting, and water control structures.

SCS is providing 75-percent cost sharing for the installation of most of the recommended practices. The total project calls for \$1.12 million in Federal cost sharing.

Most of the 200 farms in the 17,600-acre East Pittman Creek watershed have significant problems and are eligible to participate in the project through long-term contracts between individual landowners and SCS.

One of the first landowners to enter into a long-term contract under the erosion control project is Jim Martin in Bonifay, Fla. The practices that Martin will be applying include conservation tillage, tile drainage, a grassed waterway, critical area treatment, tree planting, and a grade stabilization structure.

Martin will be putting most of his 300 acres of cropland under conservation tillage—mostly corn and soybeans rotated with small grain.

"We've got to maintain our yields in these hard times," said Martin. "With conservation tillage all the crop residues that build up over the years build up organic matter. This holds more moisture, nutrients, and fertilizer."



On one badly eroded field with an 80-acre drainage area and 4 to 5 percent slope, tile outlet terraces with a concrete-lined ditch to carry runoff will be installed. The ditch will carry runoff to a sediment basin.

Martin believes in taking care of things: his farm equipment, his crop management system, and the soil on his fields. Said Martin, "If you get a flat tire, you've got to stop and fix it or you're not going much further. If you get a broken terrace, you need to fix it too; that is if you plan to continue farming.

"Soil erosion starts small; but without corrective action, it definitely gets to be a big problem."

Martin predicts that the East Pittman Creek watershed project will soon interest many more area farmers. He stresses that farmers need to know that they can provide some of the other 25 percent of the cost for installing practices by using their own equipment and doing some of the work themselves.

Asked why he includes so many of the conservation practices in his contract with SCS, Martin said, "You need to have some of all of it to make it work—like the balance of nature."

Arthur Greenberg,
public affairs specialist, SCS, Gainesville, Fla.



Excessive soil losses from erosion problems like this crop-land gully prompted local community leaders in Holmes County, Fla., to sponsor the East Pittman Creek small watershed project.

Local Leaders Hire Youth Group to Plant Trees, Save Money

Sponsors of the Twelve Mile Creek Public Law 83-566 small watershed project in Union County, Iowa, have awarded a contract for planting trees to the local chapter of the Future Farmers of America (FFA) for the last 2 years.

The Creston Chapter of FFA is planting the trees as a fund-raising project. The group bid \$3,000 for the work they did in 1983 and \$4,885 for a job this past spring.

The FFA chapter doesn't guarantee the trees, but the watershed project sponsors feel it's worth taking the risk. "If the sponsors hired a contractor who would guarantee the planting, they'd have to pay 5 to 10 times more," said Robert Loudon, SCS district conservationist in Creston. "With the money saved, the sponsors can replant if needed."

The FFA chapter advisor Galen Zumbach said the chapter will be using the money it earns on their "Make Crestland Green" project. Through it the chapter buys trees, packages them individually, and gives them to people to plant. The chapter gave away 1,000 trees in 1983 and 3,700 trees in 1984, said Zumbach.

The 50,030-acre watershed project will include 155 acres of plantings for wildlife. The FFA will be planting trees and shrubs on 24 acres.

In 1983, the FFA planted about 4 acres with 6,000 shrubs and 2,100 deciduous trees. This year, on about 10 acres, the group planted 2,500 evergreen and 1,350 deciduous trees and 5,800 shrubs.

Plans are to plant another 10 acres next year with 7,200 native hardwood trees—primarily oak, walnut, and hickory.

Sponsoring the wildlife plantings are the Iowa Conservation Commission, the Union County Soil Conservation District, the Union County Conservation Board, the Creston Board of Waterworks, and the Soil Conservation Service.

Dale D. Bruce,
public affairs specialist, SCS, Des Moines, Iowa

Kansas Watershed Projects Hard At Work

Kansas is a land of crop and livestock production. Too often, however, that production is hurt by too much or too little rainfall.

Because of its topography, Elk County in southeast Kansas seems to be especially vulnerable to the periods of drought and flooding. Elk River and its tributaries flow southeast across the county and form a basin ringed by hills that rise several hundred feet above the valley. Towns and cropland are on the flood plain.

Long-time residents report a pattern of years of severe drought interrupted by cloudbursts when 6, 12, and even 17 inches of rain fall in 1 or 2 days. In this area where farmers, ranchers, and others rarely have enough water for their needs, the resulting floods cause upland erosion and floodwater damage to cropland, grassland, forestland, urban areas, roads, bridges, railroads, and oil fields.

Gene Coble, who farms near Howard, Kans., recalls the flood of 1951, when most of the county suffered heavily, followed by 5 years of severe drought. Coble was an early leader in the Elk River Joint Watershed District's efforts to solve the area's flooding and water supply problems. The Elk County Conservation District also played an active role along with the USDA's Soil Conservation Service and Forest Service, the State Conservation Commission, and the Office of the Kansas State and Extension Forester.

Construction began in 1972 on a series of flood control dams in the Upper and Lower Elk River watersheds with technical and financial assistance from SCS through two Public Law 83-566 small watershed projects. When the dams are completed, the combined average flood damage reduction benefit will amount to \$854,000 a year.

Coble recalls when, after several dams had been completed, up to 17 inches of rain fell overnight in the hills in July 1976. Again in June 1977, up to 11 inches of

rain fell in 24 hours in the upper reaches of the watershed. Both times damage was heavy in the flood plain, he said, but would have been far greater without the dams in place.

Recently completed is a large multiple-purpose dam north of Moline, Kans., that will provide water for municipal and rural use, along with flood protection. The people of Moline helped finance the dam to help meet their water supply needs.

"Residents have benefited during the dry years from the completed dams and reservoirs as much as, if not more than, when the cloudbursts occur," said Coble. Livestock farmers no longer have to haul water for their herds. Fish and wildlife habitat has been improved and area residents are enjoying increased recreational opportunities at the many new small lakes.

In the Middle and Twin Caney watersheds in Chautauqua, Elk, and Montgomery Counties, residents also suffer from periods of too much or too little rain.

Sam Shade, president of the Twin Caney Joint Watershed District, recalls that 1956 was a severe drought year, when only 2 inches of rain fell in May. The Sedan City Lake was nearly dry, and when wells were drilled to find municipal water, the water came up salty.

"But in 1957, the rains came with a vengeance," said Shade. The Sedan area had 12.7 inches of rain in May and 11 inches in June. The Niotaze Bottoms along Little Caney River flooded 22 times that year.

Twelve years later, through the SCS small watershed program, 15 watershed dams had been built in the Middle Caney watershed and the same number in the Twin Caney watershed. Dikes were also constructed along little Caney River in the Niotaze area. Average reduction in flood damages amounts to \$795,500 per year.

The watersheds have continued to be plagued with heavy rains. Nearly 7 inches of rain fell near Sedan in one storm in July 1976, but flooding was reported as minor. A widespread 14-inch storm in 1977 also produced relatively minor flooding.

Wayne Lumley, watershed district maintenance officer, said that the project has definitely benefited the area. The Niotaze Bottoms still flood about once every 2 years, he said, but farmers can now raise crops in 6 out of 7 years, instead of 1 year in 7 before the project.

The city of Sedan desperately needed a better water supply, so the city bought water storage at the Middle Caney dam 2 miles northwest of Sedan. Likewise, one

Twin Caney dam was enlarged at the expense of the city of Caney in order to provide that city with a good water supply.

The Quivira Boy Scout Council in Wichita shared in the cost of construction of one Twin Caney dam which provides 8,700 acre-feet of water storage and a water recreation area for the Scouts.

The project also benefits fish and wildlife in the watersheds, Lumley said. The creeks used to go dry in August each year. Now, farmers get abundant stockwater from the streams year round.

A similar story can be told in the Upper and Lower Salt Creek watersheds and Lyons Creek and Turkey Creek watersheds in northcentral Kansas where annual flood reduction benefits from small watershed projects will amount to about half a million dollars in each watershed when the projects are completed. Crop production is already much improved along the flood plains, and livestock and irrigation water supplies are more dependable.

Fred L. Trump,
public affairs specialist, SCS, Salina, Kans.



Flood control dam, Upper Elk River small watershed project in Kansas.

News Briefs

\$4 Million in Increased Agricultural Research Funding Announced

Streamlined management by the U.S. Department of Agriculture has made more than \$4 million available for agricultural research projects, according to Assistant Secretary for Science and Education Orville G. Bentley.

"By reducing administrative management costs at the Agricultural Research Service's headquarters in Washington, we have been able to reinvest this money directly in high priority research projects that will benefit American farmers, ranchers, and consumers," Bentley said.

Bentley said the money is earmarked for research on soil and water conservation, crop and animal productivity, post-harvest technology, and human nutrition.

The money was released to various Agricultural Research Service (ARS) facilities, including:

- \$50,000 to an ARS facility in Brookings, S. Dak., for developing tillage and crop production systems to boost productivity of grain crops in the Northern Great Plains, including control of corn rootworms.
- \$125,000 to the Beltsville, Md., facility for research on remote sensing for natural resources.
- \$150,000 to Morris, Minn., to develop improved methods and systems for weed control for conservation tillage and crop production on the cold, wet soils of the northern portion of the Corn Belt.
- \$50,000 to Las Cruces, N. Mex., for research on sheep and mixed species grazing systems.
- \$150,000 to West Lafayette, Ind., for soil erosion research and to develop an improved soil loss prediction equation based on soil, climatic, and geographic variables.

USDA Issues Rules on Farmland Protection

In August, all Federal agencies began using criteria developed by the U.S. Department of Agriculture to determine if Federal or federally aided construction will have any adverse effects on farmland designated for protection by local or State government.

Assistant Secretary of Agriculture John B. Crowell, Jr., said USDA is issuing the rules to carry out the Farmland Protection Policy Act of 1981.

Congress passed the farmland protection legislation as part of the Agriculture and Food Act of 1981. The law was designed to minimize the role of Federal agencies in converting farmland and to insure that Federal agencies follow Federal, State, and local government policies to protect the Nation's farmland.

USDA cooperated with other Federal agencies in developing the criteria for farmland protection.

Under the farmland protection law that the rules implement, Federal agencies are required to measure the impact of their projects on farmland and, in some cases, consider alternative designs or locations to minimize the amount of farmland converted. The rule will apply to farmland that qualifies as prime or unique or that State and local governments identify as having State or local importance—if USDA agrees.

Crowell said USDA had taken care to see that the new rules would not let the Federal Government intrude on local land use policies or upset applications for Federal assistance to development projects on farmland.

If a tract of prime farmland already is in or committed to urban development by local zoning, for example, the Federal agency will not have to measure the impact of a development project on the site, Crowell said.

He said even where the Federal agency studies the impact of a project on farmland and considers alternatives, the agency still will be free to go ahead with the project after doing the study. Moreover, no Federal agency may use the

rules as a reason for refusing any assistance to a development project on farmland, Crowell said.

USDA's Soil Conservation Service will provide technical assistance on farmland protection to agencies that request it, he said. Assistance on site assessments also will be available from many State or local government planning offices.

Videotape Features Erosion Control for No-Till Corn

The Monroe County, Wis., Department of Land Conservation recently released a videotape entitled "Soil Erosion Control With No-Till Corn Production." The 22-minute tape features University of Wisconsin Extension experts, Soil Conservation Service personnel, and four experienced no-till farmers. They provide practical information on successful no-till corn production.

The tape can be used as an educational tool for presentations to farmer groups and agricultural classes.

The tape is available from the Monroe County Department of Land Conservation, 303 W. Oak St., Sparta, Wis. 54656. Formats are 1/2-inch VHS or Beta at \$25 each or 3/4-inch U-matic for \$30.

50th Anniversary Float Trip

Two Soil Conservation Service employees took a week off to publicize critical erosion problems by floating down the Missouri River on a drainage pipe raft.

Bob Sipes, an SCS soil conservation technician in Mound City, Mo., got the idea when he saw a booklet titled "50 Ways to Celebrate the 50th Anniversary of Soil and Water Conservation." SCS and the National Association of Conservation Districts wrote the booklet to inspire celebrations this year and next. Sipes convinced his friend, Bruce Walker, an SCS soil conservation technician in Falls City, Nebr., to represent his State on the raft trip.

Walker thought it over for a week before accepting, partly because of doubts about the seaworthiness of the untested craft. Others had doubts, too, judging by the name of the raft, U.S.S. *Hope—To Float*. This name was chosen in a contest sponsored by a Falls City radio station which later reported the raft's progress.

Sipes designed the raft, and his colleagues in Mound City helped him build it after work. To float it they used 12-inch-diameter pipe—the type used by farmers for water control. They strapped four 16-foot lengths of the black plastic pipe to the bottom of the 12- by 16-foot wooden raft.

The Holt County Soil and Water Conservation District (SWCD) in Mound City sponsored the raft trip and Holt County merchants donated materials for it. Holt County Agricultural Stabilization and Conservation Service program assistant Lois Clifton made anniversary banners for the raft.

Sipes equipped the raft with a stove, toilet, food, water, gasoline, and two fishing poles. He installed two outboard motors to help maneuver into tributaries to camp on streambanks at night and to steer around obstacles and through the wake of barges.

The adventurers hardly used the fishing poles because floodwaters made for poor fishing from the raft and the mosquitoes drained their zeal for fishing from the

shore. That was the only disappointment, though. They had mostly clear weather for the 8 days they spent on the river.

Their safety equipment included a truck horn which they used a lot, not to warn boaters but to surprise people on the shore.

And thanks to the publicity work by SCS, there were many people on shore to look at them, beginning with a ceremony on Friday, May 11, when they entered the river in Nebraska, near the Missouri line. Walker's 14-year-old son, Steve, accompanied the two for the first day. Although the two men were officially on vacation, SCS public affairs specialists in both States made sure their appointment books were full, scheduling media interviews at several stops.

Walker says birds and other wildlife gave him the biggest thrills of the trip. Not only was he serenaded by birds constantly, but he also heard the cries of wild turkeys, saw an osprey fishing, observed beavers and wood ducks, and spotted geese nesting in limestone cliffs.

Walker is sold on river travel now. He learned more about nature, how to read navigation charts, and what people think about soil conservation.

Sipes and Walker finished the trip near the Mississippi River, on Saturday, May 19, a journey of about 500 miles. Then they drove home through a rainstorm, ready to rest before starting another week of helping farmers cut erosion.

Now, because of the raft trip, more people know about the work that SCS and conservation districts do and more local organizations are asking for soil conservation speakers.

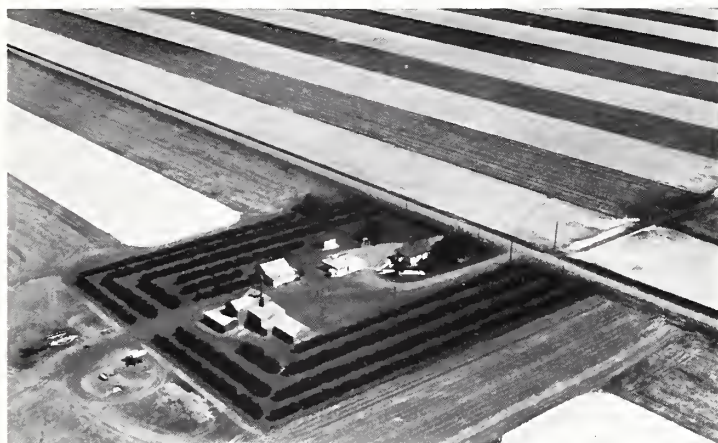
This gives the rafters hope they generated enough enthusiasm to help bring closer a time when someone will be able to celebrate another anniversary on a river that's no longer nicknamed "Big Muddy."

Donald L. Combs,
assistant editor, *Soil and Water Conservation News*, SCS, Washington, D.C.



SCS Soil Conservation Technicians Bob Sipes (left), Mound City, Mo., and Bruce Walker, Falls City, Nebr., come in for a landing at St. Joseph, Mo. They floated 500 miles of the Missouri River to publicize the work that SCS and conservation districts do to control erosion.

Photo, Orval A. Bass,
area conservationist,
SCS, St. Joseph, Mo.



1957



1983

Soil Conservation— 26 Years Later

In 1957, a Soil Conservation Service employee took a picture of a farm north of Great Falls, Mont., that became part of a U.S. Department of Agriculture collection called "America the Beautiful." Twenty-six years later, another SCS employee took a picture of the same farm.

The continuity of the soil conservation practices—wind strips and a farmstead windbreak—is a testimony to their usefulness. Dave Shane, who farms that land today, maintains the 10-rod strips and keeps crop residue on the soil surface to control wind erosion. The strips and windbreak were originally planted by Dave's uncle, Hubert Shane.

Merle Brunsvold, former SCS district con-

servationist in Cascade County, took the first photo. It was selected as the most distinctive and representative photograph of Montana agriculture and farming practices for the America the Beautiful collection.

Tim McCabe, SCS visual information specialist, Washington, D.C., took the second photo.

Early WPA Project Receives National Recognition

In 1937, after President Franklin D. Roosevelt urged all States to set up soil conservation districts to work with the Soil Conservation Service, Joe Whitaker responded quickly.

As an Oklahoma State Senator, he helped write a law authorizing conservation districts for his State, one of 22 States to pass such a law in 1937. The next year, farmers in Whitaker's home county, McIntosh, set up Oklahoma's first conservation district.

In December 1939, Whitaker watched as Hugh Hammond Bennett, the first SCS chief, planted a tree for a black locust grove on a McIntosh County farm to mark a Works Progress Administration (WPA) soil conservation demonstration project sponsored by the McIntosh County Conservation District (CD).

Forty-three years later, on the recommendation of State officials, the U.S. De-

partment of the Interior's National Park Service listed the locust grove on the National Register of Historic Places. And the McIntosh County Historical Society gave Whitaker its outstanding citizen award. Whitaker is in his eighties now, and the grove is still supplying fence posts and firewood, providing wildlife habitat, and holding soil in place.

As part of the first project, WPA workers also filled in gullies and planted grass, installed grassed waterways, and converted wornout fields to pasture. They planted the locust grove on land that had been eroded by continuous row crop production. At that time, McIntosh County farmers grew mainly cotton or corn, without conservation practices.

The McIntosh County CD used Depression-era emergency jobs programs such as WPA and the Civilian Conservation Corps to show how to restore the land and prevent further harm.

Leonard Sims, the current chairman of the McIntosh County CD, says a lot of progress has been made since the

thirties. As an example, he recalls that he and his wife recently counted 22 farm ponds along a 7-mile route to their home, where there were only one or two in 1935. In many cases, farmers have switched to better land uses, converting erodible lands to pasture.

But Sims and SCS District Conservationist Sam Viles, in McIntosh County, warn that the progress has slowed. They say most of the cropland needs conservation measures to lower unacceptable levels of erosion, but most farmers can't afford the costs of applying the measures.

The locust grove stands as a reminder of both the accomplishments of the McIntosh County CD, working with SCS, and the challenges ahead.

Donald L. Comis,
assistant editor, *Soil and Water Conservation
News*, SCS, Washington, D.C.

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New Publications

The First National Congress for Environmental Education Futures: Policies and Practices

by the SMEAC Information Reference Center

As part of the Environmental Education Information Reports series, this publication attempts to analyze and summarize information related to the teaching and learning of environmental education. It is based on presentations made at the Congress held in August 1983 at the University of Vermont—Burlington. It includes presentations made in plenary sessions and before interest groups, as well as recommendations of interest groups and resolutions adopted by conferees.

The First National Congress for Environmental Education Futures should be of interest to all concerned with promoting the importance of environmental education in today's society.

Copies of this 180-page report may be ordered for \$5.85 from SMEAC Information Reference Center, 1200 Chambers Road, Room 310, Columbus, Ohio 43212. (Discounts are available for orders of 10 or more copies to the same address.)

Protecting Farmlands

Edited by Frederick R. Steiner and John E. Theilacker

While the issue of loss of agricultural land has been addressed in many publications, *Protecting Farmlands* concentrates on various approaches for agricultural land retention. This volume consists of papers from two previous publications; the first was the proceedings of a

conference entitled "Farmland Preservation—The State of the Art," and the second was "Farmland, Food, and the Future" published by the Soil Conservation Society of America.

After an overview of farmlands protection, the book gives samples of local approaches and "middleground" and State approaches for farmlands protection. It then covers Federal involvement in farmlands and international farmlands protection efforts.

Copies of this 312-page hardbound volume are available for \$32.50 from AVI Publishing Company, Inc., P.O. Box 831, Westport, Conn. 06881.

Handbook of Tropical Food Crops

Edited by Franklin W. Martin

This book attempts to present a concise amount of useful information about a wide variety of tropical food crops.

The book includes chapters on grain crops, grain legumes, oil crops, farinaceous crops, leaf and miscellaneous vegetables, fruit vegetables, and tree fruits and nuts.

Each chapter is preceded by a short introduction, and outlines of crop information are followed by comparisons of the crops. The crop information includes climate and soil adaptability, cultural factors, uses, limiting factors and research needs, and economic importance and potential.

The handbook is available for \$74.50 in the United States and \$86 in other countries from CRC Press, Inc., 2000 Corporate Blvd., N.W., Boca Raton, Fla. 33431.

Water in Nebraska Use, Politics, Policies

by James Aucoin

In his view, the author believes that "Nebraska, like other western States, will soon face a water crisis if present trends continue. The water policy of the past eighty years has created an impressive record of dam building for flood control, hydro-power, and recreational purposes, and of irrigation development, but at the cost of diminished streamflows, a falling water table, and pollution." He is concerned about the social and ecological implications these present policies have on the vast Ogallala Aquifer, and the great Sandhills.

The problem of water depletion is intensified by the clash between farming and urban interests and the continuing competition between environmentalists and developers. The book discusses the impact of technological innovations—such as the center pivot and the reuse pit—and of administrative changes like the formation of State natural resources districts on the present water policy debate.

By contacting people of varying views and consulting academic and scientific studies about water allocation and use, the author hopes to clear away the emotional rhetoric that has often impeded discussion of water policy and to offer all citizens a complete intelligent understanding of this vital subject. He concludes the book with a study of the options available for a workable, balanced water policy for the future.

The book may be obtained for \$15.95 from University of Nebraska Press, 901 North 17th Street, Lincoln, Nebr. 68588.

Erosion and Sediment Pollution Control

by R. P. Beasley, James M. Gregory, and Thomas R. McCarty

This second edition is devoted to the design and selection of structures and practices to control soil and water erosion. Emphasis is placed on analyzing the erosion problem with the universal soil loss equation; the design of waterways, terraces and their outlets, and farm ponds; and the elements of agricultural surveying.

Updated information on prediction of erosion by water has been added, as well as new material on pollution from agricultural chemicals and information on terrace design and design of underground outlets. Revisions have been made to keep up with technologies such as improvement in weed and insect control with chemicals, which allows for less tillage; better machines for tilling and planting crops in residue; and development of small computers and calculators to evaluate equations for decision-making.

This 354-page textbook is available for \$27.95 (plus \$1.25 for postage and handling) from Iowa State University Press, 2121 South State Avenue, Ames, Iowa 50010.

Recent Soil Surveys Published

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